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OUR NEW ATLANTIC DEFENSES

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September 3, 1940 is a significant date in American history. We have the president's word for it, but we don't need any assurance from the chief executive to sense the day's importance. For on that date our frontiers shifted eastward far into the Atlantic, reversing the direction which was so dominant in more than a century of United States history. Our new outposts suddenly expanded far east to Bermuda, northeast to Newfoundland and southeast to British Guiana.

This expansion came, as is well known, thru a gift from and a trade with the British Empire. We received by gift naval and air base rights on the Avalon Peninsula of Newfoundland and similar rights on the east coast and Great Bay of Bermuda; and by trade for fifty over-age destroyers came rights to naval and air bases on the eastern side of the Bahamas, on the southern coast of Jamaica, on the island of Antigua, on the western coast of St. Lucia, on the west coast of Trinidad, and on the continent of South America in British Guiana within fifty miles of Georgetown, the capital. All lease rights given to the United States by Britain are for a period of 99 years, the same time limit as that granted Uncle Sam by Nicaragua in 1916 on the Corn Islands, off the Nicaraguan east coast, and the well known Nicaragua canal route.

Glancing over the specific items in this general eastward expansion, one may note a dominance of island bases. British Guiana is the one continental base gained. It may also be noted that the islands are stepping stones for the United States to points farther east; and more important to America is the fact that the isles might become stepping stones to an enemy power enroute to the west.

Upon reflection one may recall that islands have been important

in this capacity thruout history. It was over the island chain extending across the short distance between Eastern Siberia and Western Alaska that the ancestors of the present American Indians are believed to have come. The closely spaced Antilles strung out in an arc-like shape from Northern South America thruout the Caribbean and beyond were an easy challenge to the Carib canoe-men for spreading their culture in pre-Columbian days. And before Columbus used the Canaries as stepping stones enroute to the New World, the Norsemen landed in North America aided by the comparatively close spacing of North Atlantic isles.

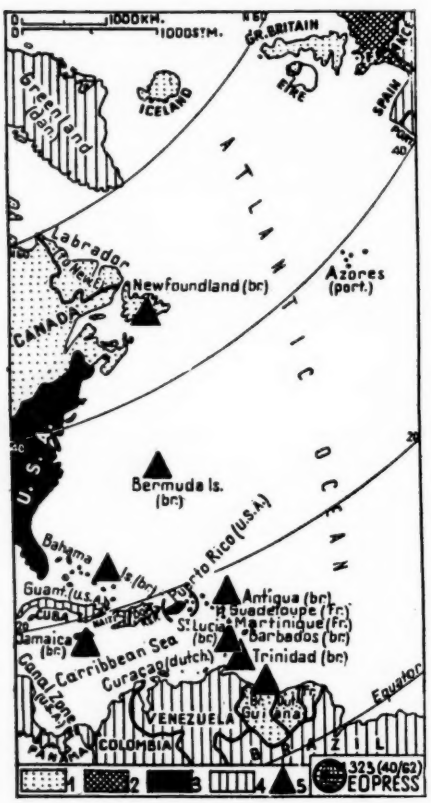


Fig. 1. Distribution of new naval bases. 1. British and allies; 2. Held by Germany; 3. United States and possessions; 4. Neutral and non-belligerent; 5. Naval bases leased to United States by Great Britain.

From the Norway coast the Shetlands are about 200 miles distant; the Faroes approximately 200 miles from the Shetlands; Iceland about 300 miles from the Faroes; Greenland in the neighborhood of 700 miles away from Iceland; and Newfoundland and the nearby continental coast of North America but a short distance from Greenland.

Today Hitler's Aryans may attempt to use these islands on their way towards new worlds to conquer. If Britain falls it is difficult to see what could stop a hostile air force from invading Iceland. From there on to Greenland and to continental America the Aryans could follow the same route as the Norsemen. But with a prepared United States in control of air and naval bases on Newfoundland, the modern Norsemen may find landings a little more difficult than their predecessors following Lief Erickson.

One more example of islands used as stepping stones may be cited, and that on the island of Bermuda where a United States Com-

mission has already conferred with British experts on the location of air and naval bases. Not many months ago newspapers were filled with tales of American protests against mail searching on the Yankee Clipper. Air men threatened to abandon the stop at Hamilton, Bermuda, but they did so with many misgivings; in fact threaten is about all they actually did. For Bermuda makes a nice stop for fuel, supplies, or repairs enroute to the Azores, themselves a stop on the last leg of the trip to Europe. Truly modern and ancient history is replete with stories of islands used as stepping stones. Today our new Atlantic defenses give us a great strategic advantage by providing bases far afield where we can stop attempted invasion upon our continental shores.

NEWFOUNDLAND

At this point we may examine each of the islands and the continental base, which is involved in the recent mutually satisfactory arrangement between Britain and the United States. The great value of air and naval defenses in Newfoundland is conceded by all students of military strategy. As previously suggested, Newfoundland may be a buffer against possible enemy attack from either Iceland or Greenland. Or it might prove a buffer between Ireland and Northeastern United States. It is not too much to envision an enemy trying the unexpected and striking direct from previously occupied Ireland. Cape Clear in the southwest part of the Irish Free State is but 1,640 miles from Cape Spear, just south of St.

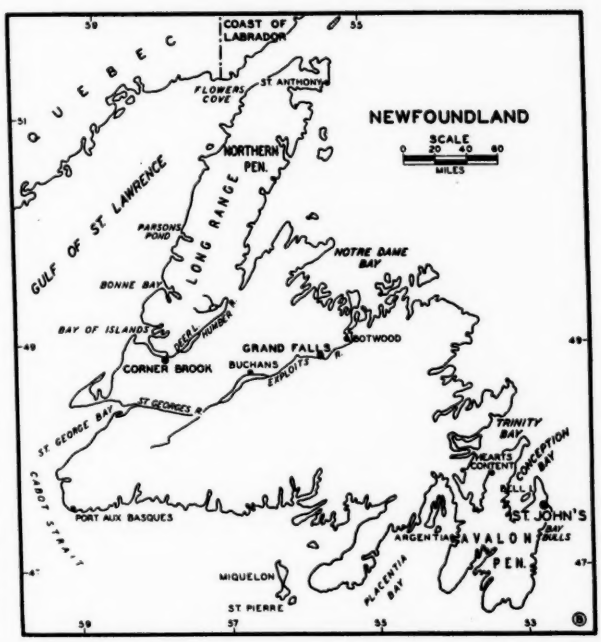


Fig. 2. The following sites have been granted on the Avalon Peninsula: Argentina Peninsula and vicinity, on Placentia Bay, air bases and army training ground; St. John's and vicinity, army and naval bases.

John's, the capital of Newfoundland, on the Avalon Peninsula. This short distance was seriously considered when the first trans-Atlantic cable was landed at Heart's Content, Newfoundland in the middle of the last century. On Signal Hill, overlooking St. John's, Marconi heard feeble signals of the first trans-Atlantic wireless. In 1919 what is said to have been the first successful west-east flight between America and Europe, that made by Alcock and Brown, started from the Avalon Peninsula. Finally, the Newfoundland-Ireland path from Botwood, Newfoundland to Foynes, Ireland is the one favored by many when the three main trans-Atlantic air routes—the Greenland-Iceland, the Newfoundland-Ireland and the Bermuda-Azores—are considered. In any case, enemy attack from Europe could not fail to see advantages in using Newfoundland as a stepping stone to New England and other sections of the Northeast. With Newfoundland well protected by air and naval forces the island may prove less attractive to westward fliers. One authority has stated that bases on the Avalon Peninsula will increase the protection of our Northeastern States by at least seventy-five per cent.

In discussing Newfoundland, one must not overlook the position of St. Pierre and Miquelon, two small islands lying to the south—islands which form the last vestige of the former large French holdings in Canada. These little fishing bases attracted United States attention during prohibition times when their prosperity boomed as a result of liquor fleets marketing French wet goods in Northeastern United States. It is doubtful that the German influenced French government will think it wise to permit German occupation of St. Pierre and Miquelon for military purposes; but if they should do so, war craft from our nearby Newfoundland base can seriously hamper such activities.

Location is probably the most significant geographical factor among the many advantages of Newfoundland for a United States military base, but one may well glance at other phases of the island environment. Ninety per cent of Newfoundland's population live along the coastal fringe; and approximately half this number is located on the Avalon Peninsula where Britain granted our new bases. This concentration may be of some significance, for Newfoundland is a sparsely populated country, containing less than a third as many people as Cleveland, Ohio, on an area as large as the entire state. The greater density on the Avalon Peninsula may

afford adequate labor supply if local help is needed in the development of the United States air and naval facilities.

Altho the excellent land-locked harbors on the Avalon Peninsula such as St. John's are more likely to be open for continuous ocean navigation than those in any other section of Newfoundland, fog conditions along this southeast coast are much less favorable than along the shores near Botwood. A recent investigation showed that the Botwood section was visited by fog only about five days a year, while St. John's carries a much higher frequency. In all parts of the island, however, the interior is much less foggy than the coast. Possibly arrangements can be made with Britain to permit the building of an air base near Botwood—an area already boasting a commercial air field as well as the British military air base.

Botwood is probably not so favorable as Avalon for a hydroplane base. At the more northern situation it is not safe to count on the bay being clear after the middle of November until the middle of May, so that for six months it cannot be used for flying boat operations. Even on the southeast coast hydroplanes would probably find difficult landing conditions for at least a few months of the year.

Ice accretion, or accumulation of ice on the wings of a plane, is another problem to be met by flyers from the Newfoundland base. The snowy cold winters encourage this flying hazard, which if uncontrolled will force flyers to the ground. Snow will interfere somewhat with land plane operations also, and if they are to continue in service thruout the winter, snow shovellers will have to keep runways to the air dromes clear. And finally, snow and cold will make necessary the heating of barracks for pilots and helpers a portion of the year.

In spite of the handicaps mentioned in the previous paragraphs, the Newfoundland base will prove a God-send to the United States Atlantic defense. Winter conditions will probably not prove so hazardous to naval craft as to air craft, and ice-breakers will likely be able to keep good harbors on the Avalon Peninsula open thruout most of the year. From such harbors United States' submarines, destroyers, and cruisers can patrol for hundreds of miles. With good flying conditions, planes based near Botwood or on the Avalon Peninsula can cover practically any enemy jumping-off point for an attack on industrial New England. From Newfoundland any enemy base in the frozen North can be bombed to ruins before it becomes

a threat. Some students of the economic geography of Newfoundland, overlooking its location advantages, have called it the land which God forgot. Surely God didn't forget its strategic position for the protection of Northeastern United States.

BERMUDA

Bermuda forms the keystone of our Atlantic defense line extending from Newfoundland to South America. This line has some similarities to the Pacific protective line extending from Alaska thru Hawaii to the Panama Canal. But there are two major differences which may be pointed out here; the Atlantic defense line is not so long, and it does not extend to such distances from the coast. The nearest approach to Bermuda on the United States coast is around Cape Hatteras, which is approximately 600 miles away. In contrast, Hawaii lies over 2,000 miles from San Francisco. Again, the Atlantic defense line drawn from Newfoundland to Bermuda and direct to South America is only about 3,000 miles in length. The Pacific defense line, for which Hawaii forms the keystone, extends for more than 6,500 miles between Alaska and the Panama Canal.

Bermuda, standing guard over the Middle Atlantic States, shows many contrasts to Newfoundland, the guardian post for the Northeast. The southern isle is much smaller than the northern one, comprising but 19.4 square miles, while Newfoundland has 42,000 square miles. The latter island is much larger in population also, containing 300,000 people to Bermuda's 30,000. But Bermuda's density of population is more than 150 times that of Newfoundland. In fact the Atlantic keystone is one of the most densely populated islands in the world with a density of approximately 1,500 per square mile. There are other contrasts of significance. Almost no fogs are seen in Bermuda, no frozen harbors interfere with hydroplanes or ships, no fear of ice accretion need be felt by airplane pilots, no floating icebergs interfere with sea navigation along well-travelled steamer lanes and probably no heated barracks for airplane pilots and crews will be necessary.

Another significant contrast may be mentioned. Bermuda is made up largely of geologically young coral limestone rocks overlying a volcanic base, while Newfoundland contains some of the oldest rocks in North America. These Bermuda corals are of various colors and form one of the reasons why Carvath Wells calls the oceanic isle the land of three colors, red, white and blue. That color scheme will fit in well with the flag of the new leaseholder.

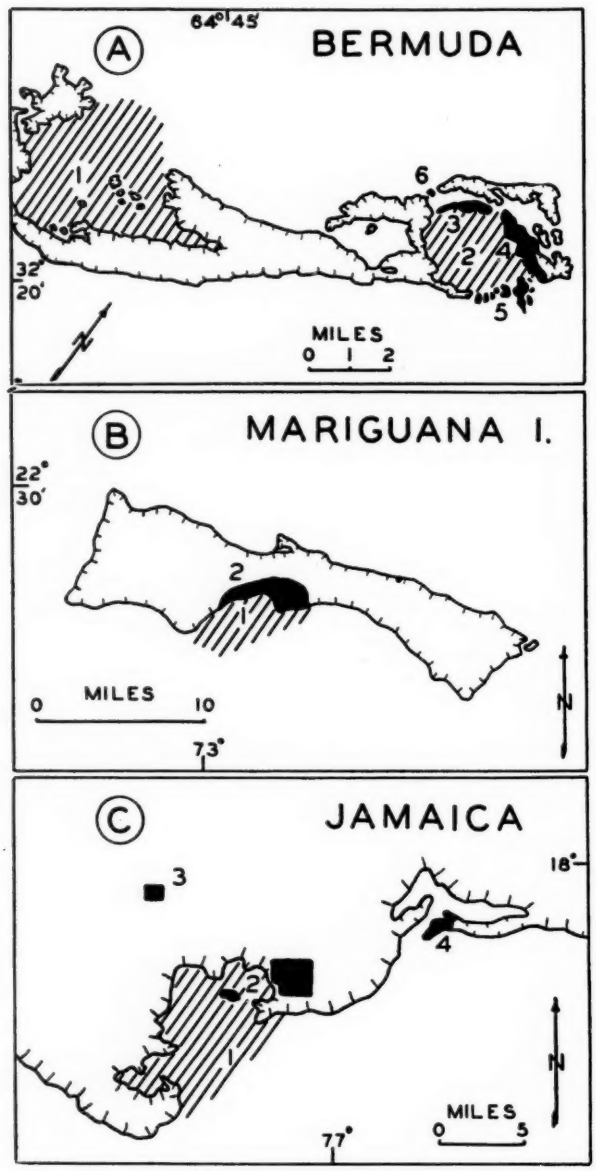
But the corals which lend beautiful color and sand beaches to

Bermuda provide dangers for the mariners who approach island shores. Navigation of the narrow channel thru the reefs that surround the island is tricky. Wrecks have been frequent thruout Bermuda's history. No other than our own Captain John Smith stated: "Truly this place hath always bin very adverse to the approaches of the Spaniards, whence it is in anger by them styled the Lland of Devils and by their mariners therefore to this daye shunned and avoyded." In some ways this is an advantage, for hostile fleets will have difficulty in approaching the island.

As might be expected from a description of Bermuda's geology, the island's harbors lack much to be desired. It has already cost Bermuda thousands of dollars to dredge the two mile channel approaching the island to a minimum depth of thirty-one feet and a width of four hundred and fifty feet. This was necessary to accommodate the large tourist ships which have flocked to the island in recent years.

It might be mentioned that Bermuda possesses a floating drydock adequate for destroyers or for the smaller types of British light cruisers; but just too short to take any American cruiser. The size of the drydock shows definite relationship to British naval policy. In contrast to the American Navy, British fighting ships have had plenty of strategically disposed bases and supply depots, and could get along with considerably smaller fuel and food supplies than American vessels. This is one reason for the British preference for smaller cruisers of 6,000 to 7,500 tons, as contrasted to the American insistence on a 10,000 ton displacement for even the light cruiser type. We might use the Bermuda dock for the repair of destroyers but other arrangements would be necessary for larger cruisers.

In spite of the shallow surrounding waters and coral reefs, Bermuda is one of the most valuable additions, if not the most valuable, to our Atlantic defenses. It will provide a base for supplies, for repairs and for fueling over six hundred miles away from our nearest coast line. What a great advantage this may be has been proven by experience in Yankee Clipper flights. Without this mid-ocean stop, more gasoline must be carried and a smaller load of passengers and cargo. In the case of military planes the extra space provided by a lesser supply of gasoline needed may be used for ammunition or armor. In this connection it might be stressed that in the latitudes of Bermuda and Newfoundland more gasoline will be needed for westward flights than for eastward crossings. In going east the aircraft is aided by the prevailing



westerly winds; in going west, these dominant winds of the temperate latitudes oppose the air ship.

Finally it may be said that Bermuda is ideally located for a practical test of Rear Admiral Mahan's creed expressed in his classic studies on sea power. Admiral Mahan believed that threats of aggression can best be met at a distance from our shores rather than on the sea coast itself. This Atlantic outpost will provide a base for patrolling planes, submarines, destroyers, and cruisers which may defend American cities on the Middle Atlantic coast, just as those craft with bases in Newfoundland may parry enemy blows toward our Northeastern States.

Fig. 3. Since writing the study, further information has become available concerning actual sites granted. Figures 3 and 4 attempt a brief summary of this information. A1, Great Sound, facilities still under discussion; A2, Castle Harbor, facilities still under discussion; A3, Long Bird Island, land plane base; A4, St. David's Island, garrison area, sea plane and naval base; A5, small islands for munition storage; A6, drawbridge permit granted between St. George's Island and Coney Island.

B1, and B2, base right granted on and along Abraham Bay.

C1, Portland Bight, fleet anchorage; C2, Goat Island and land east of Galleon Harbor, base rights; C3, Maypen, emergency and auxiliary landing; C4, Port Royal, joint facilities with Britain.

GULF AND CARIBBEAN BASES BEFORE SEPTEMBER, 1940

Before the trade of destroyers for island bases, the approaches of the Gulf and Caribbean were fairly well guarded at the northeast. Prior to September 3, 1940, the United States had bases on the Peninsula of Florida to guard the straits of the same name; the protection of the Windward Channel had been made possible by the signing of a lease in 1903 between Cuba and the United States for a naval base at Guantanamo Bay. Puerto Rico, which affords opportunity for guarding the Mona Passage, came to us as a prize of war after the Spanish conflict in 1898. And the United States Virgin Islands near the Anegada Passage were purchased from Denmark in 1917 when the United States feared Germany might buy them and menace shipping in the American Mediterranean by using the harbor of St. Thomas as a subarine base. With Florida, Guantanamo Bay, Puerto Rico and the Virgin Islands, the northeast channels of the Antilles seemed well guarded to protect the vital Panama Canal.

BAHAMAS

Now the acquisition of bases in the Bahamas by trade adds further to the security of the northern arc of the Antilles. But the Bahamas will likely be used more for planes than for naval activity. Geographic reasons account for this. Of coralline character like the Bermudas, the Bahamas offer no good harbors for deep draft vessels and navigation among them by such craft is hazardous just as around Bermuda. In fact, few regions of the world present greater navigation problems. The whole group of more than 3,000 isles and cays is a labyrinth of coral reefs and jagged coral pinnacles, of sand bars and hidden shoals all of them seemingly anxious to rip the bottom of a wandering vessel. Moreover, the lack of elevation on most of these islands makes them dangerous to the sailor. A ship's crew has difficulty in seeing them until the vessel is right upon them. Light houses have but small range to help, because the isles stand but little above sea level.

The Bahamas' chief significance to the United States is their proximity to our southeast coast. From the nearest isle it is only about 60 miles to Miami on the Florida coast. The significance of this short distance was felt during the Civil War when Confederate blockade runners used the Bahamas as nearby outlets for trade with friendly Britain; and because of the accessibility of the coral islands, southern ships were able to outwit Federal patrols. Later

during prohibition time rum runners found nearby Nassau an excellent source of supply for liquid goods. One writer facetiously states that the cases of Scotch and Gordon's Dry were piled on the Nassau wharfs in cubical hills so high that the prospering town behind them was all but lost to view.

With dictator countries expanding far and wide we are thankful for the consummation of our trade involving the Bahamas. This group, totaling an area larger than Jamaica, approximately 4,400 square miles, and spread over a section approximately as large as that of the British Isles, lies too near our coast for comfort if used by an enemy power. These thousands of isles out from our control would offer thousands of chances for enemy planes to land just as the numerous islands and intricate passages made them a pirates' paradise a few centuries ago. We want no enemy planes playing hide and seek with us so near our shores. We can prevent this with our new leasehold. Probably no large bases will be needed to accomplish our purpose, but we will need a series of small lookouts where United States craft may watch for enemy planes, for enemy sea plane tenders and for enemy submarines.

JAMAICA

The rights for a base on Jamaica will make a total of three of the four Greater Antilles on which the United States has a military foothold; on Cuba at Guantanamo Bay, on Puerto Rico at Borinquen Field and at San Juan the capital; and on southern Jamaica, somewhere in the vicinity of Kingston. Only on Hispaniola, formerly Haiti, are United States' bases absent.

Jamaica, third in size among the Greater Antilles with approximately 4,200 square miles, occupies a position just south of Eastern Cuba, almost due west of Hispaniola and southwest of the very important Windward Passage. If a map of the Greater and Lesser Antilles is superimposed on the United States with Trinidad on Florida, and Cuba stretching across Wyoming and Nebraska, the Windward Channel would occupy Northeastern Kansas and Jamaica the southwest part of the state.

Jamaica, like many of the islands of the Caribbean, can be considered an economic white elephant—this in spite of the fact that it raises more commercial bananas than any other island in the world. It raises sugar, coconuts, citrus fruits, ginger and many other tropical crops too, but these fail to maintain more than a very low standard of living among the million people, almost entirely

Negroes, occupying the island. In fact labor conditions were so bad within the last few years that Britain brought a warship to the island to keep unrest from flaring into open rebellion.

Geological unrest has been evident for sometime along the southern coast where United States base rights were granted. The Blue Mountains, which lie north of Kingston, are young growing mountains and they have transmitted some growth tremors thruout the region several times. During pirate days a town by the name of Port Royal was located near the tip of the bar which landlocks Kingston harbor. Port Royal was entirely destroyed by an earthquake in June, 1692, some say because God objected to sinful pirates who made it their home. Kingston has suffered too, in more recent time, and the whole coast may be shaken most any moment.

Such an earthquake may shallow the good harbor of Kingston and make it less valuable for naval purposes, or again earthquakes may deepen the harbor and make it more valuable. In either case such a happening will not seriously affect United States activities in Jamaica. The island will never be a first line of defense for us because of its location. Guantanamo Bay in Cuba is the first defense line, for it stands right along the very strategic water opening, the Windward Channel. True, Jamaica has a good harbor at Kingston, once it is reached thru the long narrow entrance around the bar which almost landlocks it; it is nearer the Panama Canal than any of the other trade bases; and it provides a secondary defense which should not be ignored in any evaluation. All these factors will make this stepping stone of the Caribbean of definite value to us, but not nearly so valuable as some of our other holdings in the American Mediterranean.

ANTIGUA

Prior to September 3, 1940, the openings among the Lesser Antilles south of Puerto Rico and the Virgin Islands caused much concern to United States military strategists. Time and again war experts have suggested that France and Britain turn to the United States some or all of the islands which they own between the Virgins and the South American continent in payment for World War debts. But economists looked askance at the proposal; for all of these islands, with the exception of Trinidad with its oil, have been economic millstones around the necks of the mother countries. Both economist and military expert should be satisfied with the destroyer trade. Britain retains the ownership, while we gain a 99

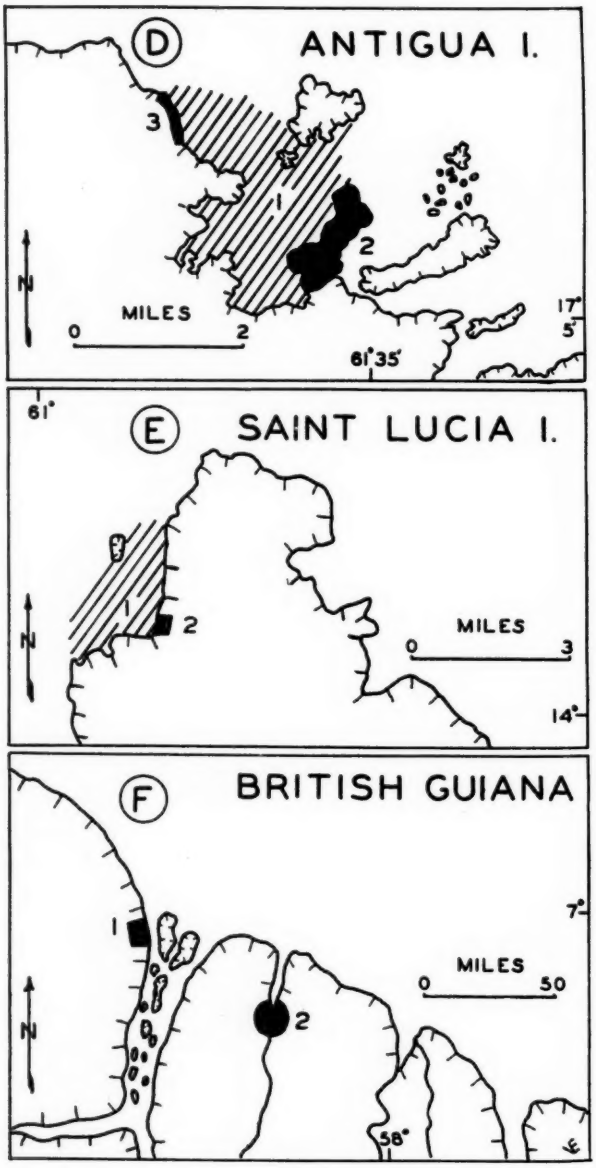


Fig. 4. D1, Parham Sound, D2, Crabs Peninsula, D3, land opposite Long Island, base rights granted.

E1 Gros Islet Bay, E2, Gros Islet, base rights granted.

F1, Suddie, seaplane base; F2, twenty-five miles up Demerara River, patrol plane base.

Trinidad is not included on this map since base sites have not been agreed upon.

year lease for enough bases to guard the Panama Canal at the many openings among the Lesser Antilles.

Antigua offers the opportunity to guard one of these openings. Lying just beyond the Virgin Islands and only 40 miles from French Guadeloupe, it is the seat of government for the Leeward Islands. Its 34,000 people on 108 square miles are not greatly crowded, for it is not as mountainous as most isles of the West Indies. The writer who said that the Antilles are one place where one can go by sea from mountain top to mountain top didn't have Antigua in mind when he made such a statement. The comparative levelness of the topography favors cane production, the dominant island industry. This levelness will also encourage easy development of air bases.

The shore line of

Antigua is deeply indented with harbors and it was here that Nelson refitted ships in historic English harbor during the early part of the nineteenth century. This bay was suitable for the small ships of the early eighteen hundred's but its nineteen foot depths would hardly accommodate the deep draft vessels of today. In fact large steamers anchor so far out that passangers and cargo are lightered to the shore. True, other coastal indentations are deeper and some people believe that they may be developed for deep draft war ships; but deepening and enlarging harbors take time and money. Antigua's chief significance seems to be in serving as a stepping stone between Puerto Rico and Trinidad for the United States submarines, shallow draft surface craft and for airplanes, and in acting as a watch dog over Anegada Passage and the French isle of Guadeloupe to the south.

St. Lucia

But a few miles south of Antigua lies mountainous St. Lucia with its capital of Castries, on the leeward coast, boasting one of the best harbors of the Antilles. It is almost land-locked, with an entrance one-third of a mile across, which broadens out to a half mile and extends more than a mile inland. It is also deep enough for deep draft ships to lie along the wharf. For decades it has been well known as a coaling station, and while now electric cranes handle most of the fuel, tourists can still view the picturesque Negroes coaling some of the ships.

Altho mostly mountainous, there are some fertile valleys among the 233 square miles of St. Lucia. These allow the 50,000 people inhabiting the island an opportunity to raise sugar cane, their major crop. These valleys may supply ample land for air bases. With airplanes from these fields, and war ships from the excellent harbor of Castries, St. Lucia will stand guard over the St. Lucia channel, over Martinique the French island to the north—this is a very important function—and like Antigua will provide a stepping stone between Puerto Rico and South America.

Trinidad

The St. Lucia base and those at Antigua, Jamaica and the Bahamas are generally conceded to be of much less significance than the one at Trinidad. For Trinidad with its 1,800 square miles, its 400,000 people, and most important of all, its oil, lies but a few miles from South America. Two passages, the Serpent's Mouth at

the south and the Dragons' Mouths at the north allow ships to pass between the island and the continent, most ships use the Dragons' Mouths for the Serpent's Mouth is much shallower and more dangerous for deep draft vessels—and the passage between Trinidad and its satellite island Tobago at the north is a well travelled approach towards the Panama Canal.

Harbors are none too favorable, for the Orinoco flowing across Venezuela to the south unloads enormous amounts of sediment into the Gulf of Paria, the water body along the island's western shores. Dredging has been going on for some time at Port of Spain, the capital, but even when once deepened the job will not be finished, for the Orinoco works on a twenty-four hour shift. The Gulf of Paria itself, a down-faulted section between South America and Trinidad, has sufficient dept to accommodate deep draft vessels in spite of constant deposition by the Orinoco.

Trinidad shows considerable diversity in its tropical crops with cacao, sugar and coconuts most important. But as previously indicated, its most important crop is oil, which accounts for the fact that Trinidad is no white elephant in the Caribbean. Not only are there many producing wells, but the Trinidad asphalt lake, of much less economic importance, is well known thruout the world. During a recent year Trinidad produced something like 10,000,000 barrels of petroleum.

Three mountain chains extend across the island in a general east-west direction, yet there is plenty of level land for air bases. Little danger to air and sea navigation from hurricanes exists around the isle as it lies outside the hurricane belt. Just how serious the hurricane hazards in the American Mediterranean have been considered by military and civil authorities may be judged by a statement of President McKinley, made just prior to the Spanish American War. The martyred president stated that he was more afraid of a West Indian hurricane than of the entire Spanish Navy. Trinidad and Newfoundland are the only islands figuring in the destroyer deal which have comparative immunity from such storms.

While ships may be stronger than they were in 1898, and reporting of storms is much better, both naval and air craft fight shy of meeting this scourge of the Caribbean. Thus a base at Trinidad offers many advantages. The island lies beyond the hurricane belt; its bases may stand guard over northern South America; its ships may challenge enemy craft using nearby ap-

proaches to South America and to the Panama Canal; and American ships of air and sea may fuel with local supplies of oil.

BRITISH GUIANA

A few hundred miles southeast of Trinidad lies British Guiana, the one continental base granted by Britain in the recent negotiations. Sparsely populated, most of the 300,000 people on the 90,000 square miles of its area, live along the coast. Here on the low-lying plain they raise sugar cane on farms criss-crossed by drainage canals like those in Holland. The Dutch owned the region during the early days of its post-Colombian history and the British, who took it from the Dutch, learned from them how to produce crops on the ill-drained coast. The interior of British Guiana is largely an undeveloped rain-forest with a sparse, largely Indian, population.

The new continental base has a handicap in the lack of good harbors. Among the eight bases granted by the British, this is the fifth without harbor facilities that will enable deep draft vessels to come along shore. But the new leasehold has several advantages. From Georgetown and vicinity air craft can range to the mouths of the Amazon and to Cape Sao Roque, where Brazil's pouter pigeon breast lies closest to Africa. If the enemy should attempt to strike from an African base such as that at Freetown, or from Dakar, the scene of the recent British fiasco, British Guiana offers a place to meet such a challenge. Moreover, rich bauxite deposits lie a short distance from Georgetown. Planes from that city can stand guard over these aluminum ore mines.

SUMMARY

Our study of British Guiana concludes the specific examination of each of the new bases figuring in the recent British-United States deal. It should be evident that all of the New Atlantic Defenses possess strategic location of varying significance. Newfoundland, Bermuda and Trinidad are doubtless of greatest locational advantage. Newfoundland, St. Lucia and Jamaica will provide good harbors. Altho the West Indies isles are more or less mountainous, not one of the eight new leaseholds lacks sufficient level land for air bases. Newfoundland alone has serious fog and ice handicaps. Newfoundland alone has cold winters, and is probably the only one where heated barracks for air pilots and crews will be necessary. Uncontrolled by the United States or by a friendly power all of

the new bases will offer stepping stones for enemy approach to our shores. But provided with air fields, ship yards, harbor facilities, and fortifications these locations will enable us to strike an enemy before he reaches our own continent, and prevent him from establishing his own bases of operation on our side of the Atlantic.

Not only must we prepare these bases for active use, but we must oil the machinery to keep them constantly prepared. And this oiling must be done at home as well as far afield. In a recent editorial the *New York Times* made the following significant statement: "What must be constantly kept in mind is that tho outlying air and naval bases are important, their strength is derivative. What is most important is strength at center, strength at home. When planes and ships are insufficient in number or quality, bases can't help much; but when strength exists at center, bases make possible to bring it most quickly to points where at any moment it may be needed."

Evidence is accumulating that we are preparing at the center. And these preparations are extending to some of the Atlantic possessions of the United States. The writer knows from actual observation that much is being done in Puerto Rico, a keystone isle in our Caribbean defense. During a couple of months stay there last summer he had an opportunity to visit Borinquen field, the air port to the northwest guarding Mona Passage. Here on a flat-floored sea terrace scores of feet above the ocean, and covering some two thousand acres, an army camp reminiscent of World War days is in operation. And construction is under way towards an air base holding several hundred planes and several thousand soldiers.

The capital city is also busy, for at San Juan, dredged material taken from a constantly enlarging and deepening harbor is being used for a plane base nearby. War ships can be seen in the harbor most any time. Naval planes can be noticed on the grounds of the new air ports. The island is filled with soldiers and sailors and the roads are lined with trucks loaded with military supplies.

Now one may ask, what are we doing on our new bases. How quickly will they be available for active duty. Commissions are conferring already. Let us hope that plans can be rushed thru quickly and actual construction begin soon. If activities on the new leased bases are moving at the tempo of military-minded Puerto Rico, the new Atlantic defenses will soon fulfil the purpose for which they were obtained.

THE USE OF MAPS IN DEVELOPING GEOGRAPHIC PERSONALITIES

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The major aim in studying the geography of a country should be an understanding of the geographic personality of the country, i.e., a generalization of human activities in relation to the natural environment. The proper use of a series of well selected maps is one of the most effective and economical means of enabling pupils to grasp an understanding of the major relationships between man's activities and factors in the natural environment. Geikie recognized this fact when he said, "The fundamental conceptions of the geography of a country should be built up from the data furnished by maps rather than from textbooks." The following discussion is an attempt to illustrate how maps may be used in developing the geographic personality of Australia.

INTRODUCING AUSTRALIA WITH THE POPULATION MAP

The introduction to the study of a country should create interest by giving an index to the adjustments the inhabitants have made and the problems which await a solution in the form of new adjustments. The population map of Australia (Fig. 1) will serve this purpose most admirably since two main features concerning Australia's population stand out. (1) Australia has a very small population. With an area nearly equal to that of the United States, Australia has a population of about 6,866,000 (excluding native people) as compared with about 130,000,000 in the United States. (2) Australia's population is not uniformly distributed, the densest settlement being in the extreme eastern and southeastern parts. These facts should provide sufficient information to encourage many problems, the solution of which will require the use of other maps supplemented by printed information, pictures, charts, and graphic material.

AUSTRALIA'S SPARSE AND UNEQUALLY DISTRIBUTED POPULATION

An understanding of the distribution of population in Australia requires a knowledge of relationships existing between natural factors such as location, physical features, climate, and natural resources on the one hand, and the people, their industries and occupations on the other.

The isolated position of Australia may be made impressive by the use of a world map. If the world is divided into a land and a water hemisphere it will be evident that Australia is the most isolated of all the inhabited continents, occupying a position south of the equator, almost central in the water hemisphere of the world. By comparing the distance between North America and Europe or South America and Europe or Asia with the distance between Australia and other continents, one of the major reasons for Australia's long period of neglect, and its present handicap in world trade should become evident.

The information provided by a map is often more meaningful when it is correlated with the information provided by other maps, since man responds to a regional combination of factors. This is especially true in Australia where climate and physical features go hand in hand in confining the conquest of the continent, largely to the southeastern part.

The major climatic features of a given region are generally conditioned by latitude, land and water, surface, and prevailing winds. Hence, the information from maps showing these features may well be correlated to explain the features shown on climate maps. The more important facts that may be learned from maps of this nature are:

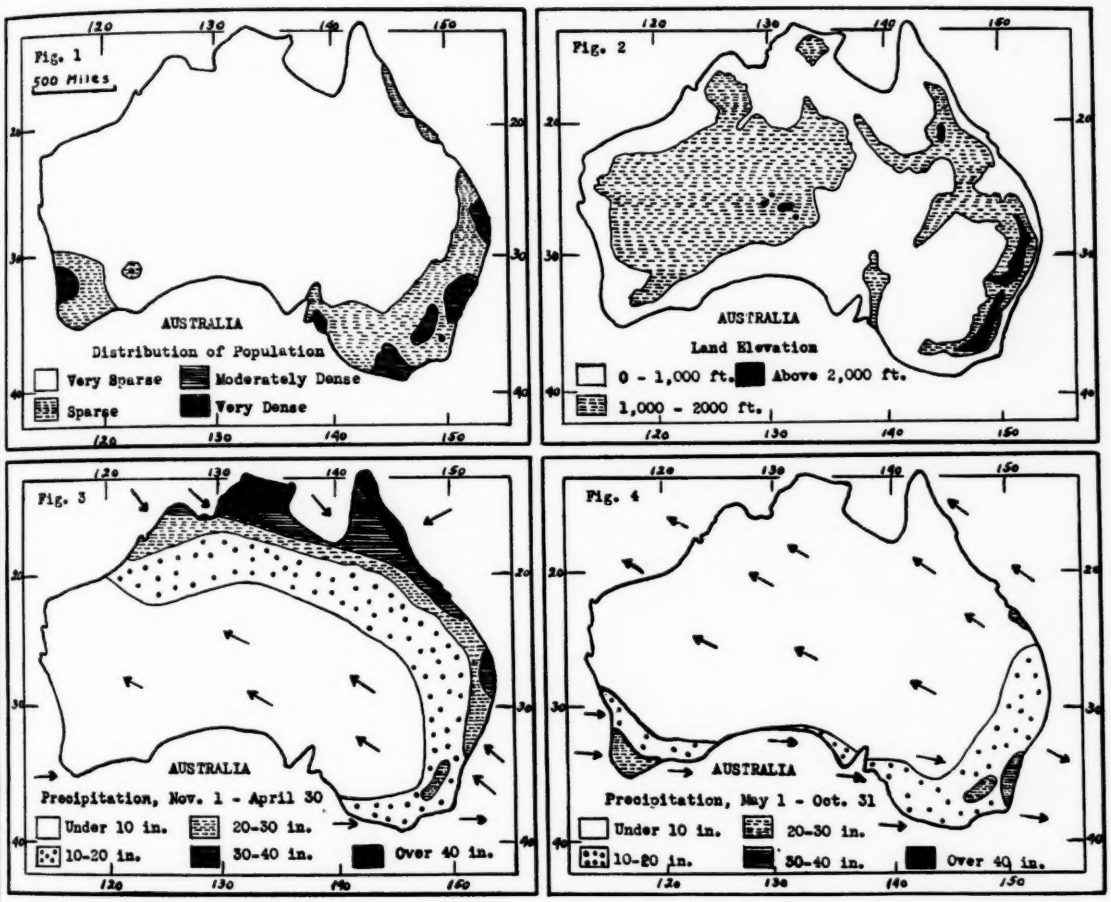
(1) Australia extends from approximately 10° to 40° south latitude. The northern part of Australia lies within the tropics while the southern part is in intermediate latitudes. Therefore, temperature conditions in southern Australia more nearly resemble those of Europe, and are the more desirable for settlement by white people.

(2) The greater part of Australia is low in elevation (Fig. 2) which tends to increase temperatures; hence Australian temperatures will probably be higher than if the elevation were greater.

(3) Because of its latitude, northern Australia, during summer in the South Intermediate Zone, will be reached by the belt of equatorial calms which causes a season of heavy rainfall (Fig. 3). During the remainder of the year it lies in the path of the drying southeast trade winds which give out very little rainfall because of the low elevation of the land (Fig. 4). If this study is supplemented by maps showing wind direction and rainfall in southern Asia and northern Australia, pupils should be able to understand the effects of the Asiatic monsoon on the climate of northern Australia. During summer in the South Intermediate Zone (winter in the North

Intermediate Zone) outblowing winds from the high pressure belt over Asia reach Australia after crossing warm, equatorial waters. After crossing the equator they are deflected to the left and blow from the northwest bringing both higher temperatures and increased rainfall.

(4) A large area of central Australia (extending from the east



to the west coast) lies permanently in the path of the southeast trade winds and receives very little rainfall except on the windward side of the eastern highlands.

(5) Extreme southern and southeastern Australia lie in the sub-tropical belt of high pressure during summer in the South Intermediate Zone, and receive very little rainfall at that season. During winter in the South Intermediate Zone this area, due to the

migration of the wind belts, is crossed by the westerly winds which bring moderate rainfall and frequent weather changes.

(6) From a physical map it may be observed that the coast line is relatively regular which provides few good harbors. There is no extensive system of inland waterways, so important in the exploration and settlement of a new country.

Maps which show the location of natural resources add information that helps to explain the distribution of population and the chief occupations. The map showing the distribution of Australia's mineral wealth (Fig. 8) indicates that the chief coal fields and iron ore deposits, that have been discovered, are in the eastern part of the continent. The location of the gold producing areas merits attention since the discovery of gold aided the exploration and settlement of the continent. The isolated "island," with a moderately dense population found in the chief gold producing area, is due to the gold mining industry.

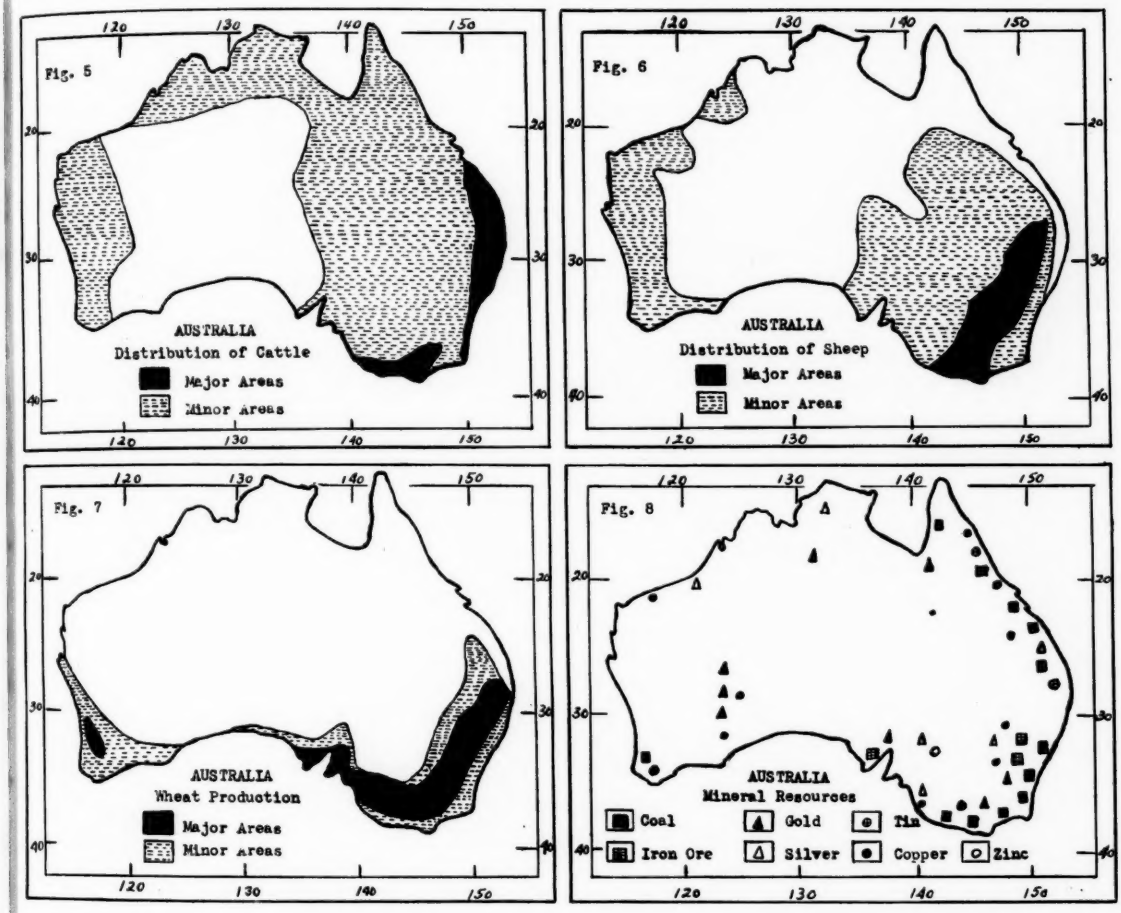
Native vegetation and soils are phases of natural resources. Even tho the native vegetation may not be useful it is at least highly representative of conditions over a long period of time and an index to types of cultivated vegetation that may be produced. It should not be difficult for pupils to understand the difficulties that await the would-be farmer where the soil is covered with sparse grass or salt bush. A striking example of the influence of soils is found in the vicinity of Sydney where the presence of yellow sandstone causes the soil to be of low fertility and makes it difficult to produce good crops.

GREAT LIMITATIONS TO AGRICULTURE

With the natural environmental factors well in hand, it should be relatively easy for pupils to understand what the major industries of Australia are and some of the persistent problems facing the Australian people. It should be clear to pupils that agriculture suffers great limitations. A consideration of the conditions favorable to the growth of the chief agricultural products of the tropical, sub-tropical, and intermediate climates will give pupils a fairly good, general conception of agricultural possibilities in different parts of Australia.

Maps may further serve our purpose in developing an understanding of the agricultural situation. They may be used to make comparisons with countries or regions that the pupils have studied, and the products may be read from product maps. The northern

coast of Australia may be compared with Nigeria in Africa; the coast of Queensland, with the eastern coast of South America in the same latitude; New South Wales with Algeria; and the extreme southern coast of Australia with the Mediterranean region of southern Europe. When these comparisons have been made, pupils should be able to understand why sugarcane and other tropical



products are produced along the coast of Queensland. It should be clear that wheat production (Fig. 7) is a logical adaptation to the winter rainfall and summer aridity in southern Australia, the northern limit of its production coinciding, in general, with the ten inch isohyet. The even greater limits to mixed farming will be intelligible because of the restricted area of mild temperatures and more uniform distribution of rainfall in southeastern Australia.

LIMITATIONS TO LIVE-STOCK INDUSTRIES

The large area in Australia having a semi-arid climate, which man has not learned to utilize for cultivated crops, should suggest to pupils the prominence of the grazing industry. Comparisons may be made thru the use of maps, if needed. The semi-arid region of Australia may be compared with the less humid parts of the Great Plains of the United States; with parts of the Argentine; or with the plateaus of southwestern and central Asia. The previous study of rainfall and vegetation will assist pupils in suggesting regions in which grazing may be carried on. Since the lack of water is the chief limiting factor the correlation of grazing regions and the border of the variable rainfall belt should be studied. A map showing the artesian water basins of Australia (so valuable as a source of water supply in western Queensland and parts of Northern Territory) should aid in helping to determine the extent of the grazing industry along the eastern border of the desert.

The distribution of cattle (Fig. 5) and sheep (Fig. 6) in Australia merits special attention, because each is produced in the parts of the continent where natural conditions are most favorable. From a study of maps the following points may be discovered:

(1) In general, cattle are raised in the areas having more rainfall and the better growth of grass, while sheep are raised in the less humid areas where the growth of grass is more sparse. This distribution is well illustrated in the Eastern Highlands. Cattle predominate over sheep in numbers on the eastern slopes where rainfall and grass are more abundant. The western slopes, having less rainfall, are utilized to a greater extent for sheep raising.

(2) Cattle raising predominates over sheep raising in northern Australia. Sheep, in Australia, are raised mainly for wool. The cooler temperatures of southern Australia are more favorable to the growth of heavy fleeces. Also, cattle are better able to resist diseases in tropical climates.

(3) From maps, pupils may be able to read four conditions which aid in making Victoria the leading dairying state in Australia—the cooler climate, the more abundant growth of grass, the larger centers of population, and the advantages for exporting dairy products.

In the study of both the agricultural and grazing industries product maps should be used in connection with maps showing the environmental factors so as to clearly establish the relationships.

RETARDATION OF MANUFACTURING AND COMMERCE

Maps which will have been used in previous discussions will largely explain three important phases of Australia's problems in developing manufacturing and commerce: (1) factors which retard these industries, (2) the limited area of the continent favorable to manufacturing, and (3) the limited variety of manufacturing industries. The more important factors which retard industry and commerce as may be read from maps are:

(1) The continent is isolated, hence the distance to foreign markets is very great.

(2) Mineral resources are greatly limited in quantity and variety.

(3) Raw materials for manufacturing (other than minerals) are largely animal products and wheat.

(4) Labor supply is limited because of the sparse population.

(5) Climatic conditions in the greater part of the continent are not favorable for the development of industry by white people.

The superiority of the southeastern part of the continent for manufacturing and commerce can be explained from maps. Among the chief contributing factors are:

(1) The chief coal fields and iron ore mines are in the eastern and southeastern parts of the continent.

(2) Most of the raw materials for manufacturing are produced relatively near by.

(3) The greatest concentration of population is in this part of the continent.

(4) The best harbors of the continent are located in the southeastern part.

(5) The climate of southeastern Australia, because of the moderate and variable temperature and moderate rainfall, is more favorable for white people than any other part of the continent.

(6) Land transportation is better developed in the southeastern part than in any other part of the continent.

The limited supply and variety of raw materials is indicative of the limitations placed upon the variety of manufacturing industries.

AUSTRALIA'S PROBLEMS

A concept of the pronounced effect of the natural environment on Australia's industries suggests some of the major problems facing the Australian people. A knowledge of the great handicap—

aridity—will give pupils an appreciation of the problems facing farmer and ranchman in attempting to expand their industries into more arid regions. The great limitations placed upon manufacturing will explain why Australia is essentially a producer of foods and raw materials, and will make intelligible the problems of the Australian government in attempting to foster new industries. A knowledge of the disadvantages of climate which must be overcome if white people are to inhabit and develop northern Australia; and the nearness of the overcrowded lands of southeastern and eastern Asia will do much to explain the "White Australian Policy."

ACTIVITIES IN GEOGRAPHY CLASSWORK

MARY GALFORD
Mason City, Iowa

I heard a fellow teacher say, "Johnnie Jones finishes his work before the rest of the class, and then annoys the others. What do you do, in cases like that?" The suggestions which follow may be helpful to others, who ask the same question.

Since monotony is a crime in Junior High School, according to certain authorities, variations in assignments and guide sheets should be frequently made. However, no matter what type of assignment was given, I was always confronted with the problem of the child, who worked at a more rapid rate, and therefore finished before his classmates. He could not continue with a new unit for various reasons, so some provision had to be made to keep all the class busy all the time. Homogeneous grouping according to I.Q.'s does not do this, as people do not work at the same rate of speed even tho they are in the same intellectual category.

In a most approved didactic manner, I had suggested to them that since a few of them might complete the unit before the others, a conscientious and business-like student could always find something worth-while to do. The real student could look up more information about the subject matter in various reference books, or he could look over his completed work to be sure that it was neatly and accurately done, or he might profit by reading the more difficult parts of the text again. At any rate he must not bother the others. The average seventh grade pupil does not care to look over his work, and wouldn't see anything wrong with it if he did. He may aimlessly look at the pictures in reference books—after all he has

to do something—or he tries to draw comic pictures, all a waste of time under these vague and indefinite suggestions. One small boy of jitterbug tendencies said in a very confidential manner, "What shall we do when we finish? Set?" Knowing that he and others like him would not "set," I decided to prepare very definite extra work to take care of such situations.

Educators tell us that the work must be meaningful, purposeful, fit the child's daily needs, take care of individual differences, provide him with guidance and be a natural situation. We admit the truth of these assertions, but we wonder how to get that way and with about two hundred children assembling before us daily, we resemble the old woman who lived in a shoe.

I wanted my extra work to have some of the above mentioned qualities, and not be mere busy work. Of course if it turned out to be the latter, I could quote to myself the didactic precepts, "Activity is the chief means of learning" and "Activity is not only the best teacher, it is the only teacher," I would forget the other adage, "He is idle, who might be better employed."

In order to care for individual differences, I prepared a variety of activities, including maps for the map minded, cross-word puzzles for those so inclined, quizzes for the intellectuals, and books for the readers. Various exercises masqueraded under the title of games, played solitaire. With the words "optional" and "extra credit" typed on a sheet of paper with mimeographed directions it is surprising the appeal they make. It is such fun to be doing something different, when your neighbor across the aisle is still laboring with the required work. It is also an incentive to the neighbor to speed up a little.

Cross-word puzzles may be original or copied from those which have appeared in the JOURNAL OF GEOGRAPHY. They are as good as objective tests when based upon the unit, currently studied, as they involve recall, research and correct spelling. It is evidently considered a worth-while activity, as many adults are addicted to solving them in their leisure time.

The game Guggenheim appeals to a certain type of child and may be justified because it requires a knowledge of place geography, and develops the ability to locate information from a variety of sources, such as an atlas, the World Almanac, index, etc.

If a pupil wishes to read an accredited book which correlates with the unit, he may go to the bookcase and help himself. It is a natural situation to do so, and it is pleasant to browse among books,

selecting one which looks interesting, instead of having it thrust in one's hand and being told dictatorially to read it. One boy, who was labelled as "too lazy for anything," read several books of non-fiction by starting them in class, then taking them home to finish.

Making a card index for class room use, working on maps of a different type from those which are required, working on geographical puzzles are only a few of the many activities to be prepared and ready for use.

And then, there are stamps. We know that President Roosevelt is designated as the nation's "Number One Stamp Collector." I have read that Mrs. Roosevelt has said that he turns to his stamp album which has been his life long hobby, when he is very tired. She is quoted as saying, "I don't know anybody else who knows so much history and geography as my husband, and I think it is largely due to his interest in postage stamps."

The teacher can arouse interest in stamp collecting by having a variety of stamps, notebook paper, and hinges all ready for an interested student to begin the activity. The commemorative stamps may teach, incidentally, the leading National Parks, United States possessions, socialized geography in connection with famous people, and world geography, including places, industries, and products.

Sugar-coated learning, lollipops, do you say? Maybe, but sugar and candy give us increased energy of a physical nature, why not increased mental energy also?

Before engaging in any of the activities mentioned, the pupils must satisfy themselves and the teacher that the required work has been creditably prepared. This may be done by handing in the written work or taking a self-administered test.

RESULTS OBTAINED

All pupils are kept busy and they are helped to avoid bad habits of idleness.

The required work is enriched, if the activity correlates with the unit being studied.

Individual differences are cared for.

Pupils are guided in finding their aptitudes for certain tasks.

It acts as an incentive to keep pupils working at their maximum capacity.

All, including the teacher, are happy.

THE BATON ROUGE MEETING OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

FLOYD F. CUNNINGHAM, Secretary

The twenty-seventh annual meeting of the National Council of Geography Teachers was held at Louisiana State University, Baton Rouge, Louisiana, on December 27 and 28, 1940.

The first session was a joint meeting with the Association of American Geographers. The following program, a symposium on the Mississippi Delta Region, was arranged by Fred B. Kniffen, of Louisiana State University: "Physiographic Regions of Louisiana," by Richard J. Russell, Louisiana State University; "The Soils of Louisiana," by J. Fielding Reed, Louisiana State University; "Louisiana Vegetation Regions," by E. M. West, Louisiana State University; "Louisiana Animal Geography," by J. Harvey Roberts, Louisiana State University; "The Historic Indians of Louisiana," by A. C. Albrecht, Louisiana State University; "Louisiana Demography," by J. S. Kyser, Louisiana State Normal College; "An Ethno-telephonic Survey of French Louisiana," by Peveril Meigs, 3rd, State College, Chico, California; "French Louisiana," by V. J. Parenton, Louisiana State University; "Agriculture Regions of Louisiana," by R. J. Saville, Louisiana State University; "Louisiana Foods," by Pierre Crabites, Louisiana State University.

On Friday afternoon, members of the National Council met to hear a program devoted chiefly to Conservation. The first paper, "Conservation in the schools of Nebraska," was presented by Ralph E. Olson, of the University of Nebraska. "Conservation in Nebraska is primarily concerned with long range promotion of research of resources and because of that and the late settlement of the state, conservation teaching was somewhat retarded. The economic depression, floods, drought, and declining yields, however, have reduced the farm income and forced attention on conservation practices. The Conservation of Natural Resources is still not so much a definite body of subject matter as it is an attitude toward the wide range of world's wealth, which in the long run, belongs to all races of all countries thruout generations." "Place Relations in Censervation" was presented by J. Russell Whitaker of George Peabody College for Teachers. Mr. Whitaker stressed the important part that place relations play in conservation education. "Much of the inefficiency of conservation education is due to

the failure to grasp the place relations involved. Not only are teachers and pupils somewhat insensitive to local problems, but they are even less aware of those which involve distant places. Analysis reveals that the place relations of city pupils—the connections between them and the places where the natural resources on which they depend are located—are strikingly different from those of rural pupils. In the study of these man-resource relationships, the usual approaches to geography are of value. Particularly effective are the various maps which show distribution of natural resources, of uses, and of conservation problems; and those which reveal the flow of mobile resources and of the products made from them." The third paper entitled "Education and Resources," was read by Helen Strong, formally in charge Education Relations, United States Soil Conservation Service. She traced the history of conservation in education beginning with the course first given by Dr. Douglas C. Ridgley many years ago at the Illinois State Normal University. She urged the National Council to work with other groups in effecting a conservation program. "We must make resources a vivid impelling experience in the lives of pupils." The final discussion of the afternoon session was on "Soil and Water Conservation," by David O. Davis, Regional Division of Information, Soil Conservation Service, Forth Worth, Texas. Mr. Davis showed thru the use of slides how proper soil and water conservation could be effected.

This program was followed by a tea at the Faculty Club given by the wives of the Department of Geology faculty members.

The annual dinner was held in Highland Hall. A great number of geographers and others assembled to hear an excellent address by Harold Kemp, of Harvard University. His talk entitled, "A Realist in the Mediterranean" was enjoyed immensely. Dr. Kemp, who is thoroly familiar with many parts of the Mediterranean realm, with the use of lantern slides brought out the great dangers of generalization in regard to Mediterranean climates.

The Distinguished Service Award was presented to Dr. J. Russell Smith, of Columbia University. The presentation was made by S. S. Visher of Indiana University, a member of the Distinguished Service Award Committee.

On Saturday morning a varied program was presented. The first paper, entiled "The Social Value in Developing Readjustment Thinking in Geography," was read by Gladys Fawley of the Florida State College for Women. "Geography teaching must serve

a socially useful purpose," said Miss Fawley. "It is apparent that readjustment to the natural environment must be made increasingly in response to changing social, economic and political conditions. Geography teaching can make a vital and specific contribution to the understanding and solution of social and economic problems by means of practical training in the development of deeper and broader readjustment thinking about the specific problems now confronting the local community, the state and the nation." The next paper "Experiences in Organized Travel for High School Students," was presented by Mattie Sue Walker of Commercial High School, Atlanta, Georgia. Miss Walker's paper dealt very thoroly with field trips which she and high school students had made to industrial establishments in Atlanta, and to truck farms near Atlanta. She also described trips made to New Orleans and to New York City. The third paper, "Analysis of the Geographic Content of the Curriculum in the Publication; The Future of the Social Studies," was given by Miss Alison Aitchison of the Iowa State Teachers College at Cedar Falls. Miss Aitchison presented her findings in a very thoro manner. "Geography and the Community," was the title of the paper, written by Miss Edith Parker, University of Chicago, and read by Mrs. De Pencier. In this paper Miss Parker analyzed very carefully the economic life of a small community in central Illinois. Elements of site and situation were dealt with in much detail. The fifth paper, "Aviation—A Challenge to the High School Geography Teacher," was read by Guilbert Graham of the Zanesville Ohio High School. "The Science of Aviation is making new demands upon Geography. Safety requires that a pilot know much about navigation and meteorological conditions. He must know how to locate accurately places on a map; and he must have some knowledge of map projections." The last paper of the morning session was presented by A. H. Meyer of Valparaiso University and was entitled, "What can the Council do to Improve the Status of High School Geography." This excellent presentation was a critical evaluation of the status of geography in the secondary school program. Many valuable suggestions were offered, and if carried out, they should cause educators to recognize the distinct contributions that geography can make to a well-rounded educational program.

Four papers were presented on the Saturday afternoon program. The first paper, "Land-Use Practices in the Southern Cut-Over Lands in Mississippi" was presented by Clyde F. Kohn, of

the Mississippi State College for Women. "Two chemurgic developments have affected the nature of land-use practices in southern Mississippi. The Masonite Plant is sponsoring a program of planned reforestation for the "cut-out and get-out" method of commercialized logging. The Sweet Potato Starch Factory has brought about changes in agricultural land-use practices. New crops have been introduced and new uses for old crops have been developed." The second paper "Recent Industrial Development in Texas," by Edwin J. Foscue of Southern Methodist University, emphasized chiefly the industrial developments of Texas during the present century. The following four industries were very carefully analyzed: the Petroleum Industry, the Sulphur Industry, the Alkalies Products Industry, and the Pulp and Paper Industry. The third paper was presented by L. C. Davis. The title of this paper was "Some Land and Sea Scapes, South American West Coast." For a number of years Mr. Davis has been developing techniques for reconaissance field work. He depicted various aspects of Peruvian and Chilean economic life by the use of 16 mm. Kodachrome film. These pictures Mr. Davis made during a recent field trip which he and a number of college students made to west coast countries of South America. The final paper entitled, "Canada and Arctic Settlements," was presented by John Q. Adams, of the University of Missouri. Thru the use of motion pictures and informal notes, Mr. Adams gave his audience a vivid description of landscapes and of life in Baffin Land and along the east coast of Ellsmere Island.

The program was concluded with a three-day field trip to various parts of southern Louisiana. This trip in which about one hundred geographers participated was arranged and conducted by Professor H. J. Chatterton of the Southwestern Louisiana Institute at Lafayette.

BUSINESS MEETING, 1940

The annual business meeting of the Board of Directors and Executive Committee of the National Council of Geography Teachers was held in two sessions.

First Session

The minutes of the 26th annual meeting held at Chicago were approved without reading. The first business taken up was that of committee reports, the first report being that of the secretary, which was approved as read. The second report was that of the

Nominating Committee, composed of H. O. Lathrop, Chairman, Lina Webb, and J. Sullivan Gibson. The committee rendered the following report: *President,* Alice Foster; *First Vice-President,* Floyd F. Cunningham; *Second Vice-President,* Esther S. Anderson; *Secretary,* Thomas F. Barton; *Treasurer,* George H. Primmer; *Executive Committee,* terms to expire 1943: Cora P. Sletten, Earl B. Shaw, Katheryne Thomas Whittemore; *Distinguished Service Award Committee,* term to expire 1945, J. Russell Whitaker; *Directors-at-large* (elected for one year): Clare Symonds, A. H. Meyer, J. Riley Staats, Agnes Allen, Walter E. Browne.

A motion was made that the slate be accepted. The motion was seconded, put to a vote and carried.

The Executive Committee in session in the afternoon elected H. J. Chatterton to the *Research Committee,* term to expire in 1944.

A report of the Committee on Tests was made by Miss Marguerite Uttley, Chairman. She reported that the fourth grade test had been completed and was in published form. This test is available from McKnight and McKnight, Bloomington, Illinois.

Earl E. Lackey reported for the Committee on Classification of Climates. Mr. Lackey stated that the committee was working out criteria for beginning the simplification of climatic regions.

Miss Sletten then read a report of the Committee for Abstracting Articles in Geographic Education, Norah Zink, Chairman. Following the reading of the report it was moved that the Board of Directors thru the secretary, advise Miss Zink to complete her research project early in 1941, and to submit her final report to the committee set up to investigate the possibilities for publishing the report, Zoe A. Thralls, Chairman. A motion was seconded put to vote and carried. The secretary was instructed to write Miss Thralls and request that she and her committee investigate all possibilities for publishing the report, and to submit the findings to the Executive Committee.

A report from W. M. Gregory, Chairman of the Visual Education Committee was read by President Cora P. Sletten. Mr. Gregory stated that he hoped to have the list of films ready for publication by the last of February.

There next followed a discussion of the work of the Committee on Promotion of State Chapters for the Council. It was moved that the present committee be discharged and that the work be assumed by the secretary. The motion was seconded, put to a vote, and carried.

George J. Miller, Editor of the JOURNAL OF GEOGRAPHY, rendered a report dealing with the status of the JOURNAL. Following a discussion of the report, Mr. Miller read the following proposed amendment to the Constitution:

ARTICLE III MEMBERSHIP

Any teacher of geography, or any person interested in the improvement of geography teaching, may become a member of the National Council on written application to the secretary and the payment of the annual fee of two dollars and fifty cents. Members shall receive the JOURNAL OF GEOGRAPHY.

After some discussion it was moved that the proposed amendment be accepted. The motion was seconded, put to a vote and carried.

The motion for adjournment was then made, seconded, and carried. The meeting adjourned at 11:45 P.M.

SECOND SESSION

At the beginning of the second session on Saturday evening there was a brief discussion relative to the auditing of the treasurer's books. Inasmuch as the treasurer's report had not arrived, auditing was held in abeyance and the secretary instructed to forward the books to J. E. Switzer, Chairman of the Auditing Committee as soon as the books could be located.

The Resolution Committee, consisting of R. W. Johnson, Chairman, Anne Goebel, and Rose B. Clark, presented the following report:

Your committee wishes to present the following resolutions to the National Council of Geography Teachers, assembled in Evangaline Hall, Louisiana State University, December 27 and 28, 1940.

Resolved, That the National Council of Geography Teachers express their thanks and appreciation to Louisiana State University, and particularly to Dr. R. J. Russell, and to the members of the Department of Geography for the courtesies shown the Council during its meeting: to the committee in charge for its careful provision for our comfort in the unique arrangement for housing and feeding visitors near the centers where meetings were held.

Resolved, That an expression of appreciation be sent to the wives of the faculty members of the Department of Geography for tea served in the Faculty Club for the benefit of the Council members and their friends.

Resolved, That special thanks be tendered to Mrs. Floyd B. Kniffen for planning and conducting the sightseeing tours for the wives of visiting geography teachers.

Resolved, That thanks be tendered to A. J. Nystrom and Co. for printing the programs for the twenty-seventh annual meeting without cost to the Council.

Resolved, That special thanks be tendered to Professor H. J. Chatterton for his untiring efforts for arranging and conducting the extensive field trip during the last three days of the meeting.

Be it further Resolved, That expressions of appreciation be sent to the New Orleans Committee, composed of Lionell J. Bourgois, Hazel M. Fougerat, Lucille Bryans,

and Hermia Fernon, for its work in securing lodging and for conduction of tours in the city of New Orleans.

Signed: R. W. JOHNSON
ANNE GOEBEL
ROSE B. CLARK

It was moved and seconded that the report be accepted. The motion carried.

The next report was that of the Education Relations Committee, Erna G. Gilland, Chairman. The complete report was read by the secretary. The report was accepted. It was moved that the Educational Relations Committee be appropriated not to exceed $30.00 for 1941 expenses. The motion was seconded and carried.

A motion was then made that membership in the Federation of Education Associations be discontinued for the year 1941. Annual dues in the Federation are $25.00. A substitute motion was made that the matter be left in the hands of the Executive Committee, inasmuch as the treasurer's report was not available. The substitute motion was seconded and carried.

H. O. Lathrop read a letter from the Department of Science Instruction of the National Education Association, requesting that the Council send a representative to its 1941 Boston Meeting. Several suggestions were made as to speakers and the matter was finally left in the hands of Mr. Lathrop, a member of the Executive Committee.

J. R. Whitaker presented a brief report on the annual meeting of the National Council for the Social Studies held at Syracuse, November 21 to 23, 1940. Mr. Whitaker's report was supplemented by a more detailed report by George H. Primmer. Mr. Primmer stated that this was the twentieth meeting of the National Council for the Social Studies. At the request of the First Vice-President, Fremont P. Wirth, Mr. Primmer presided at the luncheon meeting. The main address was given by Dr. Preston E. James, whose topic was "The Purpose of Geography in the Social Studies Curriculum." Earl E. Lackey and Katheryne Whittemore made some comments relative to the excellent work that is being done by the National Council for the Social Studies.

Some discussion followed relative to the working out of the details of a joint membership in the National Council of Geography Teachers and in the National Council of the Social Studies. When the plan is effected it was stated that one would receive joint membership in the two councils, and at the same time, receive both the

JOURNAL OF GEOGRAPHY and *Social Education*. It was moved that the Executive Committee be empowered to give final approval to the matter of joint membership. The motion was seconded, voted on, and carried.

A. H. Meyer, of Valparaiso University, following a rather detailed report, asked that the Council put machinery into effect to secure the following:

1. Circulation of a questionnaire to all the State Departments of Education to determine the exact status of high school geography in all its organization and functional aspects.

2. Seek adequate state license certification to cover geography under whatever license group it may be taught.

3. The preparation of high school geography curricula material to function separately as geography as well as a core integration feature of the social studies unit.

4. Consultation and co-operation with the state councils in executing the national program.

5. Requirement of a written report from each state council director, each year, on the problems, projects, and progress in connection with the promotional campaign.

6. Publication annually of brief summaries of such reports so that each state council may profit from the experiences and accomplishments of the rest.

7. Proposal of a geo-centric social studies program worked out jointly with the National Council of Social Studies and individual state curricular agencies, to make geography the center or core of the high school correlation program.

8. Publication regularly as part of our journal, or better still, separately of a Geography News Commentary of current events sponsored perhaps by one of our map publishers, such as the A. J. Nystrom and Company.

The following resolution was offered by H. O. Lathrop, a member of the Executive Committee:

Whereas, It has been repeatedly called to the attention of the National Council of Geography Teachers that many teachers in the various states are teaching geography with inadequate preparation in geography: Therefore be it

Resolved, That the National Council of Geography Teachers respectfully urge that the same special academic training be required of teachers of geography as is required of teachers of other academic subjects, and

Be it further Resolved, That a committee be appointed to set up minimum standards for geography teachers and that the report of the committee be submitted to the Executive Committee of the Council for approval.

The motion was accepted and made a part of the following motion offered by J. E. Switzer:

"I move that the incoming president be authorized to appoint a committee to gather the facts of the requirements of the teachers in each state and formulate a statement of standards for the teachers in geography and social science." The motion was seconded, put to a vote, and carried.

George J. Miller pointed out the advisability of having a permanent publication committee, which would be alert for any material that might be suitable for the JOURNAL or for publication in some other form. After some discussion it was moved and seconded that the incoming president appoint a publications committee, consisting of three members. The motion carried.

The secretary pointed out the advisability of having all committee reports submitted in writing. After a discussion it was moved and seconded that committee reports be presented to the secretary at least ten days in advance of the annual meeting. The motion was carried.

It was moved and seconded that the president and secretary be empowered to select the place and the time for the next annual meeting. The motion carried.

The meeting adjourned at 11:35 P.M.

ANNUAL REPORT OF THE TREASURER

NATIONAL COUNCIL OF GEOGRAPHY TEACHERS
DECEMBER 16, 1940

GENERAL TREASURY REPORT
(Money other than Research Fund)

Amount in General Treasury, Dec. 12, 1939	$ 479.77
Received since Dec. 12, 1939:	
From A. J. Nystrom & Co. (15¢ on each membership subscription)	152.10
From First National Bank, Bloomsburg, Pa., interest	7.99
Total	$ 639.86
Expenditures since Dec. 12, 1939:	
W. M. Welch Mfg. Co. for Certificate of Distinguished Service Award	1.62
Erna Grassmuck Gilland, anticipated expenses for publicity, etc., for N.E.A. at Milwaukee, July 1940	30.00
Floyd F. Cunningham, reimbursement for tickets	5.60
Ernestine L. Lange for stenographic work at business meeting of National Council, Dec. 28-29, 1939	20.00
Edwin H. Reeder, reimbursement for printing	21.55

Bellanger Printing Co. for letterheads	8.36
World Federation of Ed. Ass'n. Membership Fees, 1939-1940	25.00
Sadie G. Friedlander expenses to N.E.A. at Milwaukee	14.20
	$ 126.33
Amount in General Treasury Dec. 16, 1940	513.53
	$ 639.86

RESEARCH FUND REPORT

Amount on hand, Dec. 16, 1939	$2,714.37
Receipts during 1940:	
Royalties on Our Natural Resources and Their Conservation	613.70
Royalties on Geographic Series	94.19
Interest	58.41
	$3,480.67
Expenditures during 1940:	
Journal of Geography for Reprints of Report of Committee on Research in Geographic Education	8.84
Balance in Fund	3,471.83
	$3,480.67

ACCOUNT OF THE RESEARCH FUND OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

Dec. 16, 1940

Receipts

1934—Royalty on Geographic Series	$ 133.06
1935—Royalty on Geographic Series	165.53
Interest	3.34
1936—Interest	6.36
1937—Royalty on Our Natural Resources and Their Conservation	617.81
Royalty on Geographic Series	100.76
Interest	9.24
1938—Royalty on Our Natural Resources and Their Conservation	745.05
Royalty on Geographic Series	162.33
Interest	27.47
1939—Royalty on Our Natural Resources and Their Conservation	559.10
Royalty on Geographic Series	141.19
Interest	43.13
1940—Royalty on Our Natural Resources and Their Conservation	613.70
Royalty on Geographic Series	94.19
Interest	58.41
	$3,480.67

Expenditures

1940—Journal of Geography for Reprints of Report of Committee on Research in Geographic Education	8.84
Balance in Fund	3,471.83
	$3,480.67

H. HARRISON RUSSELL, *Treasurer*

EDITORIAL NOTES AND NEWS

According to preliminary reports of the Department of the Interior, Alaska produced $25,375,000 of gold during 1940, an all-time high record. Other minerals besides gold, including platinum metals, antimony, mercury, tin, and coal, brought the total mineral production for 1940 to $27,658,000. Total mineral production for Alaska since 1880, when recorded mining operations began, amounts to $830,000,000, a tidy sum when compared with the $7,200,000 which we paid for Alaska in 1867. About 71 per cent of the gold came from placers and 29 per cent from lodes.

The third General Assembly of the Pan American Institute of Geography and History is planned to be held in Lima, Peru, from March 30 to April 8. The governments of the twenty-one American Republics have been requested to send official delegates, and invitations to participate in the Institute have been sent to private associations and individual scientists.

More and more ways are being devised for getting smoke into your food. Smoked cheese, game, turkey, oysters are a few of the novelties that are adding variety to our food. Some of the cheese is appearing in a casing similar to sausage casing and consists of American cheese smoked over a hickory fire. Turkeys too large for most home ovens are best for smoking as they do not dry out as quickly as the small ones do. The appeal of this new pungent flavor in food, tho mostly used as an appetizer, is helping dispose of some of our surplus food. The Department of Agriculture has directions for curing and smoking some of our farm products.

"The Geography of National Defense" was the principal theme in the papers presented in Section E, Geology and Geography, of the American Association for the Advancement of Science. The program was presented in the Academy of Natural Sciences, Philadelphia, December 30, under the auspices of the Association of American Geographers. One section of the map exhibit, under the direction of Professor J. F. Bogardus, University of Pennsylvania, featured maps of the Philadelphia region, while another section had maps related to national defense.

The geography department of the Missouri State Teachers Association met last fall in Kansas City, Missouri, with Dr. Carol Y. Mason, Chairman. Special tribute was paid to the late Dr. Sam T. Bratton of the University of Missouri, a member of the Association. The principal speakers were L. T. Pierce, Assistant District Forecaster of the United States Weather Bureau, and Dr. Wallace W. Atwood. The latter gave an illustrated lecture entitled, "From Capetown to Kenya Colony: A Study of South Africa." M. E. Branom, Teachers College, St. Louis, was elected Chairman.

Those interested in the program of the CCC may be interested in the findings and recommendations of the American Youth Commission of the American Council of Education which is released in a twenty-four page statement which may be had upon request to the American Youth Commission, 744 Jackson Place, Washington, D.C.

According to a recent release from the U. S. Department of Commerce, muskrats top the fur-animal catch in the United States. Louisiana outranks all states in muskrat

production, followed by Maryland. The trapper is generally a farm boy who traps when free from farm duties. This private enterprise is in contrast with the fur production from the Alaska seal herd which has been under the management of the United States Government since 1910. At that time the herd was estimated to number 132,000, in contrast with the 1940 seal census which totals 2,185,136. When the United States acquired Alaska the herd was estimated to be between two and five millions. The right of taking fur-seal skins from the Pribilof Islands between 1870-1910 was leased by the government to private corporations. However, the killing of seals at sea was so great as to almost exterminate the herd. So pelagic sealing was prohibited in 1911 in a treaty entered into by the United States, Great Britain, Japan, and Russia. Recently Japan has given a year notice of intention to terminate this treaty. The United States Coast Guard watches over the seals' migration northward to their breeding grounds on the Pribilof Islands. The mature bull seals arrive there early in May, followed soon by the females, all of which remain on the islands till fall. One reason ascribed to their selection of the Pribilofs is the fog cover of the islands which seals prefer to direct sunlight. Each mature bull seal defends his harem, which may number seventy female seals, against all who venture near it. Young bull seals unable to capture the fancy of the young females or successfully challenge the harem rights of an old bull are killed and their skins become our Alaskan seal coats. In 1940 the licensed kill numbered 65,263.

Pipe manufacturers are facing a shortage of brierroot wood due to the war. This wood is obtained from the root of a heath, Erica Arborae, grown in commercial quantities in Mediterranean countries. The word brier is a corruption of the French word for heath, bruyere. The wood has a high resistance to charring, is free from warping and cracking if properly seasoned, is attractive in color and finish, and keeps "sweet" after long use. Substitutes are being sought in some of the domestic woods such has hickory, maple, mountain laurel, apple, red gum, and birch. Suggested substitutes are the mesquite, chaparral, wild lilac, and western yew.

All weather reports sent to the Royal Air Force have information on the "freezing level," which is the altitude at which ice is likely to form on the plane. Altho this danger zone, or ice zone as it may be called, may be on the ground, it usually begins in Britain in winter at an altitude of 3,000 feet; in summer, at 7,000 feet. Beyond this ice zone, the moisture is already formed into ice crystals which do not stick to the plane. Ascent or descent thru the danger zone must be as rapid as possible, since it requires only a few minutes for sufficient ice to form on the plane to force it down by weight. The anti-aircraft service knowing the "freezing level" can gauge the level of enemy airplanes which also, if possible, fly above the danger zone.

GEOGRAPHICAL PUBLICATIONS

William H. Haas, Editor. **The American Empire, A Study of the Outlying Territories of the United States.** 408 pp. Ills., Maps, Index. The University of Chicago Press, 1940. $4.00

This volume is designed for a reading public that, in the words of the editor, "is pathetically ignorant of the geographic background upon which the superstructure of the country is built." Nine authors have cooperated with Professor Haas in preparing this useful summary of essential information, mainly geographic, concerning our non-contiguous "territories." Altogether they have performed a worthwhile task, one that has needed occasional re-doing since the year 1789 when the geographer Morse, amazed at the extension of territory to the then remote Mississippi River, exclaimed "the United States have now arisen to Empire."

In the opening chapter, "The Process of Overseas Expansion," Isaac J. Cox develops a not unfamiliar theme but departs from tradition in concluding that this process may reverse itself, not only in the Philippines but elsewhere. This view finds direct support in "Puerto Rico" by Rafael Picó and the editor—the first of six regional chapters—but for the most part the reader must draw his own conclusions on this score. The primary concern of the several authorities has been to provide the basic facts and it may be presumed that they found it necessary to eliminate parenthetical discussions. The final chapter, "Manifest Destiny in Greater America" includes an inquiry into the rôle of the United States in its hemisphere. Professors Haas and Cox here find that the United States may be regarded as a "trusted leader in the search for world-peace," and express the hope that "its protective and pacifying influence [will] coincide with its remarkable growth and its present opportunities."

RALPH H. BROWN

University of Minnesota

Herman Frederick Otte. **Industrial Opportunity in the Tennessee Valley of Northwestern Alabama.** 27 maps, tables, and graphs. Columbia University Press, New York, New York. 1940 $2.25

Industrial Opportunities in Northwestern Alabama is primarily a study of industrial development of seven counties of northwest Alabama. These seven counties comprise a section of the Tennessee River Valley that lies to the west of the Cumberland Plateau. The introductory chapter states the problem, the setting, and boundaries of the Region, and the method of approach. Chapter two entitled "The Background of Industry" describes the rise of industry in the Region and notes the major changes in the structure of industry. This chapter treats chronologically the evolution of industry. In the third chapter the author examines the present structure of industry in the Region as well as the position of the Region as an industrial area. In this chapter he analyzes the relation of industry and agriculture, the contribution industry makes to the economy of the Region, the grouping of industries; and then proceeds to analyze the factors that have localized industry in three centers, namely: the Huntsville center, the Decatur center, and the tri-city center. He concludes the chapter with an analysis of the present attitude toward industry. In chapter four there is made a complete survey of the availability of the resources and raw materials. This one chapter comprises almost a third of the entire book. It is in this chapter that Dr. Otte analyzes, rather carefully, the position of water power, coal, mineral raw materials, ground and surface waters, agricultural products, and forestal resources as they have contributed and are contributing to the industrial development of the Region. In chapter five the author investigates markets and industrial sites in terms of accessibility of railroads, highways, inland waterways, and space for factory sites. Chapter six deals chiefly with the human factor. The

author made a personal investigation of the attitude of communities to new industries and the extent to which each community is willing to aid and cooperate.

The final chapter, "The Industrial Prospects," summarizes the study. "Present changes in the structure of industry in the Region and those that appear to be impending do not foreshadow a great industrial boom. All available evidence indicates that the Region will never become a beehive of industry. . . ." It appears to the reviewer that Dr. Otte has treated all factors involved with extreme care, yet it is interesting to note that a $23,000,000 aluminum plant is now under construction, near Wilson Dam and more than $6,000,000 is about to be spent by the Federal Government in building an ammonium nitrate plant near the present T.V.A. fertilizer plant.

The book is a valuable contribution to industrial geography in spite of a few minor misstatements of facts.

FLOYD F. CUNNINGHAM

State Teachers College
Florence, Alabama

André Siegfried. **Suez and Panama.** Translated by Harold and Doris Hemming. 390 pp., 32 maps and graphs. Harcourt, Brace & Company, New York, 1940. $3.00.

Suez and Panama is a product of careful scholarship and literary skill—a combination as rare as it is welcome. André Siegfried knew two of the principals, de Lesseps and Theodore Roosevelt, in the historic episodes he describes, and he has thoroly familiarized himself with the events surrounding the planning and execution of the enterprizes as well as having seen first hand how the canals actually function in world commerce. A skillful use of many maps and graphs has served to make even statistics interesting.

One of the most satisfying features of the book is the broad viewpoint taken by the author. In such great enterprizes with far-reaching consequences for the whole world, success or failure may depend much upon factors which are neither engineering, nor even strictly geographic. Finance, politics, personal idosyncrasies of those in power and the national jealousies and rivalries of nations—these all played their rôle.

From the geographer's standpoint the work has been well done. It is complete, authentic and up-to-date. The author has considered the physical obstacles to construction, analyzed the traffic curves, the routes served and the regions affected by each. As he says the two canals have little in common—in fact "Suez is a magnificent ditch digger's dream! Once the canal was finished it functioned like a harbor or port. Panama, owing to its dam and locks, is more like a factory. One's impression is less of navigation than of a giant workshop filled with splendid machinery that operates as accurately as a watch." However, it is very convenient to have both accounts within the same covers.

Geographers, economists, and the public owe much to André Siegfried and to the able translators who have made his work accessible to the great body of English readers.

W. O. BLANCHARD

University of Illinois, Urbana, Illinois